IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Lutz Rosenpflanzer, et al.	Art Unit:	2176
Serial No.:	10/607,102	Examiner:	Nathan Hillery
Filed:	June 25, 2003	Conf. No.:	3609

Title: MANAGING DIFFERENT REPRESENTATIONS OF INFORMATION

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

BRIEF ON APPEAL

Applicant files this Brief on Appeal in response to the Notification of Non-Compliant Appeal Brief dated October 19, 2007.

(1) Real Party in Interest

This application is assigned of record to SAP AKTIENGESELLSCHAFT of Walldorf, Germany, who is hence the real party in interest.

(2) Related Appeals and Interferences

There are no known related appeals and/or interferences.

(3) Status of Claims

Claims 1-30 are pending. Claims 1 and 15 are independent. Claims 1-30 stand twice rejected and are the claims on appeal.

(4) Status of Amendments

All claim amendments have been entered.

(5) Summary of Claimed Subject Matter

The claimed subject matter relates to managing different representations of information. Information can be stored in machine-readable representations by data processing devices. *See, e.g., specification*, page 1, line 7-9. Different data processing

devices can represent the same information differently. *Id.*, page 1, line 9-10. Discrepancies in the way information is represented often hinder or prevent different data processing devices from collaborating effectively. *Id.*, page 1, line 9-10.

The representation of information can be tailored to a specific purpose using "data customization." *Id.*, page 7, line 5-6. FIGS. 2 and 3 show examples of how data customization can impact the representation of data. *Id.*, page 7, line 15-17. For the sake of convenience, redacted portions of FIGS. 2 and 3 are now reproduced.

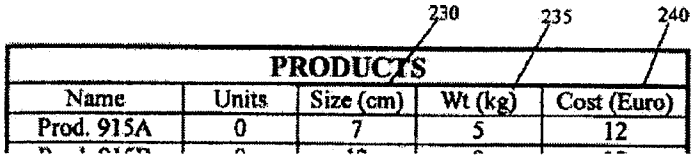


FIG. 2

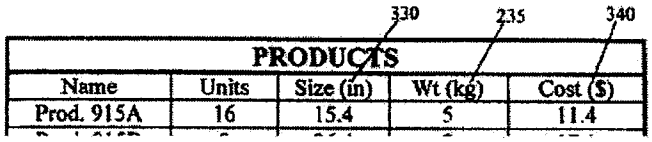


FIG. 3

In FIG. 2, size is customized to a centimeter setting 230 whereas in FIG. 3, size is customized to an inch setting 330. *Id.*, page 7, line 22, 30. Thus, **the same information content (i.e., the size of product "915A") is represented differently**. When customization settings are not identical, data processing results may be incorrect and the represented information content may be inaccessible. *Id.*, page 8, line 1-5.

Applicants have described systems and techniques for managing different representations of information. *Id.*, page 8, line 15-16.

CLAIM 1

Claim 1 relates to a computer-implemented method for managing different representations of information. The method includes:

receiving information describing a first representation of data variable information in a first data structure in a first data processing system (*Id.*, page 8, line 25-31; FIG. 7, element 705; page 10, line 8-16; FIG. 9, elements 905, 910);

receiving information describing a second representation of the data variable information in the first data structure in a second data processing system (*Id.*, page 8, line 25-31; FIG. 7, element 710; page 10, line 8-16; FIG. 9, element 915); and

mapping the first representation of the data variable information to the second representation of the data variable information. *Id.*, page 9, line 1-5; FIG. 7, element 715; page 9, line 9-27; page 11, line 8-20; FIG. 9, element 935.

This mapping can include:

identifying a correspondence between the first representation and the second representation using a set of data processing activities performed in accordance with a first set of machine-readable instructions (*Id.*, page 9, line 1-5; page 11, line 12-15; page 12, line 29-page 13, line 2),

representing the correspondence using the set of data processing activities performed in accordance with the first set of machine-readable instructions (*Id.*, page 9, line 1-5; page 11, line 15-20; page 13, line 3-12), and

making the correspondence between the first representation and the second representation available for changing the first representation of the data variable information to the second representation of the data variable information. *Id.*, page 9, line 20-27; page 13, line 9-12.

CLAIM 2

Claim 2 relates to a computer-implemented method for managing different representations of information. The method includes the steps of claim 1 wherein:

mapping the first representation to the second representation further comprises establishing a second set of machine readable instructions for changing the first representation of the data variable information to the second representation of the data variable information; (*Id.,* page 1, lines 25-27; page 2, lines 10-11; page 10, lines 25-27) and

making the correspondence available comprises making the second set of machine readable instructions available. (*Id.,* page 3, lines 11-12; page 11, lines 8-20).

CLAIM 15

Claim 15 relates to a computer program product, tangibly embodied in one or more machine readable storage devices, for managing different representations of information. *Id.*, page 1, line 15-16; page 13, line 13-23. The computer program product is operable to cause one or more data processing apparatus to:

receive a data variable in a data structure, wherein data variable information in the data variable has a first representation associated with a first system (*Id.*, page 2, line 20-24; page 2, line 29-page 3, line 2; page 9, line 26-27);

receive a description of a second representation of the data variable information, wherein the second representation is associated with a second system (*Id.*, page 8, line 25-31; FIG. 7, element 710; page 10, line 8-16; FIG. 9, element 915);

identify and represent a correspondence between the first representation and the second representation to generate a set of mapping information (*Id.*, page 9, line 1-5; page 11, line 12-20; page 12, line 29-page 13, line 12);

change the data variable information from the first representation to the second representation in accordance with the set of mapping information (*Id.*, page 9, line 1-5; FIG. 7, element 715; page 9, line 9-27; page 11, line 8-20; FIG. 9, element 935) and separately from any change to the structure of the data structure (*Id.*, page 2, line 20-24; page 4, line 17-27); and

make the data variable information having the second representation available in the data structure. *Id.*, page 9, line 1-5; FIG. 7, element 715; page 9, line 9-27; page 11, line 8-20; FIG. 9, element 935.

CLAIM 21

Claim 21 relates to a computer program product, tangibly embodied in one or more machine readable storage devices, for managing different representations of information. *Id.*, page 1, line 15-16; page 13, line 13-23. The computer program product is operable to cause one or more data processing apparatus to execute the instructions embodied in claim 15, and further to:

establish machine readable instructions for changing the data variable information from the first representation to the second representation; (*Id.*, page 1, lines 25-27; page 2, lines 10-11; page 10, lines 25-27) and

make the machine readable instructions available. (*Id.*, page 3, lines 11-12; page 11, lines 8-20).

(6) Grounds of Rejection to be Reviewed on Appeal

The following grounds of rejection are outstanding:

-claims 1-29 stand rejected under 35 U.S.C. § 101;

-claims 1-14 and 22-25 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly not being enabled by the specification;

-claims 1-14 and 22-25 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly not being described by the specification;

-claims 1-14 and 22-25 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite;

-claims 1-4, 7, 9-30 stand rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent Publication 2002/0103881 to Granade et al. (hereinafter "Granade");

-claim 8 stands rejected under 35 U.S.C. §103(a) as obvious over Granade and the document entitled "XSL Transformations (XSLT) Version 1.0," copyright WSC;

-claim 5 stands rejected under 35 U.S.C. §103(a) as obvious over Granade and the document entitled "Tm: a Code Generator for Recursive Data Structures" by Reeuwijk; and

-claim 6 stands rejected under 35 U.S.C. §103(a) as obvious over Granade and the document entitled "An Experiment in Table Driven Code Generation" by Graham et al.

As set forth in the following concise statements, the following grounds for rejection are presented for review:

I. The rejection of Independent Claim 1 under 35 U.S.C. § 101;

II. The Rejection of Dependent Claim 2 under 35 U.S.C. § 101;

III. The Rejection of Independent Claim 15 under 35 U.S.C. § 101;

IV. The Rejection of Dependent Claim 21 under 35 U.S.C. § 101;

V. The Rejection of Independent Claim 1 under 35 U.S.C. § 112, first paragraph;

VI. The Rejection of Independent Claim 1 under the Enablement Requirement of 35 U.S.C. § 112, first paragraph;

VII. The Rejection of Independent Claim 1 under the 35 U.S.C. § 112, second paragraph;

VIII. The Rejection of Independent Claim 1 under the under 35 U.S.C. § 102(e) as anticipated by Granade.

IX. The Rejection of Independent Claim 15 under the under 35 U.S.C. § 102(e) as anticipated by Granade.

The other grounds for rejection are not presented for review on appeal at this time.

(7) Argument

The organization of the arguments presented hereinafter follows the grounds for rejection to be reviewed on appeal set forth above. In particular, a separate boldfaced heading for each ground presented for review follows.

I. The Rejection of Independent Claim 1 under 35 U.S.C. § 101

Claim 1 stands rejected under 35 U.S.C. § 101 as allegedly being directed to a judicial exception to the statutory subject matter defined in 35 U.S.C. § 101. In particular, the rejection contends that claim 1 has "no practical application as claimed because there is no physical transformation and no production of a concrete, useful and tangible result." In support of this contention, the rejection sets forth two alternative bases, namely:

-claim 1 allegedly is abstract in failing to recite that a correspondence between representations of data variable information is made available "to a user;" and

-claim 1 allegedly "fall[s] short of the disclosed practical utility" (emphasis in original).

Applicant respectfully disagrees. As a threshold matter, Applicant notes that the processing of information using a set of data processing activities performed in accordance with a set of machine-readable instructions, as recited in claim 1, inherently

requires physical transformations. Such data processing activities are performed in data processing devices where mechanical, electrical, magnetic, and/or optical logic undergoes physical transformations that reflect the data processing activities. Indeed, data processing devices would be unable to operate altogether unless the physical consequences of such transformations where both tangible and concrete. Clearly, such physical transformations are both so reliable and reproducible that modern microprocessors are used in a variety of applications, including medicine, structure design, precision machining, and the like. Accordingly, data processing activities performed in accordance with a set of machine-readable instructions do indeed provide tangible physical transformations and are outside of any judicial exception to 35 U.S.C. § 101.

Moreover, even if, for the sake or argument, one were to ignore these physical transformations, the contention that the computer-implemented method recited in claim 1 is abstract because the correspondence between representations is only "made available" (rather than "made available to a user") is also without merit. To begin with, there is no established legal basis whatsoever for this anthropocentric view. Clearly, there are other entities than "a user" to whom the correspondence between representations represents a concrete, useful and tangible result. For example, the correspondence between representations can be tangible to other data processing devices that use the correspondence to change representations of data variable information. While arguing that trees falling in forests do not make a sound if there is no one there to hear them might make for an interesting philosophical discussion, the contention that a result is abstract unless it is made available "to a user" not only lacks legal foundation but also unduly neglects other entities to whom the result is of tangible utility. In short, it is of small consolation to the deer who has been crushed by the falling tree that the falling tree was only abstract.

As for the contention that claim 1 "fall[s] short of the disclosed practical utility," Applicant appreciatively acknowledges the indication that a practical utility is disclosed in the specification. However, Applicant respectfully submits that claim 1 encompasses a disclosed practical utility. For example, the specification clearly describes that the

correspondence between representations of data variable information in a data structure in different data processing systems can be used to facilitate collaborations between the different data processing devices. *See, e.g., specification*, page 1, line 7-13, page 3, line 15 - page 4, line 27. Accordingly, a disclosed practical utility is encompassed by the claims.

Moreover, it is self-evident that intermediates can derive their utility from a product of known utility. Since the specification sets forth such a practical utility, the subject matter recited in claim 1 also has substantial utility as an intermediate in reaching that utility.

Accordingly, claim 1 not only falls within the definition of statutory subject matter defined in 35 U.S.C. § 101, it is also outside the scope of any judicially created exceptions thereto. Applicant asks that the rejections of claim 1 and the claims dependent therefrom be withdrawn.

II. The Rejection of Dependent Claim 2 under 35 U.S.C. § 101

Claim 2 depends from claim 1. Claim 2 also stands rejected under 35 U.S.C. § 101 as allegedly being directed to a judicial exception to the statutory subject matter defined in 35 U.S.C. § 101. No independent basis for the rejection of claim 2 under 35 U.S.C. § 101 has ever been set forth despite the mandates of 35 U.S.C. § 132 and 37 C.F.R. § 1.104(2), and despite applicants' request.

In addition to the deficiencies noted above in Section I, claim 2 additionally recites establishing a set of machine readable instructions for changing a representation of data variable information. The rejection of claim 2 thus contends that the establishment of sets of machine readable instructions does not have sufficient utility to meet the requirements of 35 U.S.C. § 101.

Applicant respectfully disagrees with the rejection. For example, Applicant notes that the members of an entire profession - namely, software programmers - spend their days seeking to establish sets of machine readable instructions. The rejection of claim 2 amounts to a contention that this activity lacks utility and that the fruits of these labors are not concrete, useful, and tangible.

Applicant respectfully disagrees. Software is a viable industry and software programmers get paid. Accordingly, the rejection of claim 2 is improper on this ground, as well as the grounds noted above in Section I. Applicant therefore asks that the rejections of claim 2 and the claims dependent therefrom be withdrawn.

III. The Rejection of Independent Claim 15 under 35 U.S.C. § 101

Claim 15 also stands rejected under 35 U.S.C. § 101 as allegedly being directed to a judicial exception to the statutory subject matter defined in 35 U.S.C. § 101. No independent basis for the rejection of claim 15 under 35 U.S.C. § 101 has ever been set forth despite the mandates of 35 U.S.C. § 132 and 37 C.F.R. § 1.104(2), and despite applicants' request.

In addition to the deficiencies noted above in Section I, claim 15 relates to a computer program product that is operable to cause one or more data processing apparatus to change a representation of data variable information. Such a change in the representation of information is clearly a "transformation" within the scope of those that were identified as useful, concrete and tangible in the Federal Circuit's holding in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, where the court stated that:

> "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' - a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998) *cert. denied* 525 US 1093 (1999).

In particular, a change in the representation of information will result in results akin to those approved of in *State Street*. Accordingly, the rejection of claim 15 is improper on this ground, as well as the grounds noted above in Section I. Applicant therefore asks that the rejections of claim 15 and the claims dependent therefrom be withdrawn.

IV. The Rejection of Dependent Claim 21 under 35 U.S.C. § 101

Claim 21 depends from claim 15. Claim 21 also stands rejected under 35 U.S.C. § 101 as allegedly being directed to a judicial exception to the statutory subject matter defined in 35 U.S.C. § 101. No independent basis for the rejection of claim 21 under 35 U.S.C. § 101 has ever been set forth despite the mandates of 35 U.S.C. § 132 and 37 C.F.R. § 1.104(2), and despite applicants' request.

In addition to the deficiencies noted above in Sections I and III, claim 21 additionally recites a computer program product that is operable to cause the data processing apparatus to establish machine readable instructions for changing the representation of data variable information. The rejection of claim 21 thus contends that the establishment of machine readable instructions does not have sufficient utility to meet the utility requirement of 35 U.S.C. § 101.

Applicant respectfully disagrees with the rejection. As discussed above, the establishment of machine readable instructions has clear economic and technical utility, and the machine readable instructions themselves are plainly concrete, useful, and tangible. Any contention to the contrary ignores broad swathes of the economy, not to mention the software, video games, and other examples of machine readable instructions sitting on the shelves of the nation's retailers.

Accordingly, the rejection of claim 2 is improper on this ground, as well as the grounds noted above in Sections I and III. Applicant therefore asks that the rejections of claim 21 and the claims dependent therefrom be withdrawn.

V. The Rejection of Independent Claim 1 under the Written Description Requirement of 35 U.S.C. § 112, first paragraph

Claim 1 stands rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking a written description. In particular, the rejection contends that there is no support for "identifying a correspondence between the first representation and the second representation using a set of data processing activities performed in accordance with a first set of machine-readable instructions" and "representing the correspondence using the set of data processing activities performed in accordance with the first set of machine-readable instructions" as recited in claim 1.

Applicant respectfully disagrees. The specification describes that data customization impacts the representation of information. *See, e.g., specification*, page 7, line 5-6. Data customization and the representation of information is managed by an integration engine 130. *Id.*, page 8, line 6-7. Integration engine 130 is hardware and/or software that manages the representation of information. *Id.*, page 6, line 24-26. Integration engine 130 can result from the performance of machine readable instructions by one or more data processing machines. *Id.*, page 8, line 8-10. The integration engine can identify and represent the correspondence between the customization settings in different systems. *Id.*, page 9, line 3-5. Additional detail regarding implementations of the identification and representation of correspondences between data variable information in a first data structure in different data processing systems are found, e.g., at page 11, line 8-20 and page 12, line 29-page 13, line 12.

Accordingly, the written description requirement of 35 U.S.C. § 112, first paragraph, is met. Applicant respectfully requests that the written description rejection be withdrawn.

VI. The Rejection of Independent Claim 1 under the Enablement Requirement of 35 U.S.C. § 112, first paragraph

Claim 1 stands rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking an enabling disclosure in the specification. In particular, the rejection contends that "it is unclear what [constitutes] a set of data processing activities" and "how [a set of data processing activities] is used to identify and/or represent the correspondence" between representations of data variable information in a first data structure in different data processing systems, as recited in claim 1.

To the extent that the present rejection contends that the subject matter recited in claim 1 is unclear, applicants will address this issue in Section VII below, which addresses the rejection of claim 1 under 35 U.S.C. § 112, second paragraph, in which similar contentions were made.

As for the enablement requirement, as a threshold matter, Applicant notes that the rejection lacks even a bald assertion that one of ordinary skill would be unable to arrive at

the claimed subject matter absent undue experimentation. As such, the rejection is improper. *See, e.g., M.P.E.P.* § 2164.01(a).

Moreover, the rejection also contends that while identifying and representing the correspondence between "customization settings" is enabled, identifying and representing the correspondence between representations of data variable information is not. However, as discussed above, the specification clearly describes the relationship between data customization and the representation of information. *See, e.g., specification*, page 7, line 5-6 (describing that "[t]he customization of data tailors the representation of information in data variables to a specific purpose; page 7, line 15-16 (describing that "FIGS. 2 and 3 show examples of how the customization of data in a system can impact the representation of data in a system."); page 8, line 6-7 (describing that the representation of information includes the customization of data). *See also specification*, page 9, line 1-3 (describing that the integration engine can maps the representation of information in different systems by mapping customization settings of the systems).

Given this relationship, since identifying and representing the correspondence between "customization settings" is enabled, identifying and representing the correspondence between representations of data variable information is also enabled.

Accordingly, the enablement requirement of 35 U.S.C. § 112, first paragraph, is met. Applicant respectfully requests that the enablement rejection be withdrawn.

VII. The Rejection of Independent Claim 1 under the 35 U.S.C. § 112, second paragraph

Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The rejection contends that the constitution of a "set of data processing activities" is unclear, as is how data processing activities can be used to identify and represent a correspondence between representations of data variable information. The rejection also contends that the specification is deficient for lacking an explicit definition of "data processing activities" and how the claimed method steps should reasonably be interpreted.

Applicant respectfully disagrees. The meaning of the term "data processing activities" is clearly discernable to those of ordinary skill. The phrase "data processing

activities" is in widespread use. In light this widespread usage, there is no reason to believe that the meaning of the phrase "data processing activities" would not be discernable to those of ordinary skill.

Applicant's usage of the phrase "data processing activities" is believed to be consistent with this widespread usage. For example, the specification describes that data processing systems in a distributed data processing landscape "can operate autonomously, handling local workloads of data processing activities." *See specification*, page 5, line 16-19. Such data processing activities can be performed "in accordance with the logic of a set of machine readable instructions." *Id.*, page 5, line 26-27. Moreover, since claim terms are presumed to have their ordinary and customary meaning unless Applicants explicitly set forth a different meaning, the specification is not deficient for lacking an explicit definition of "data processing activities." Thus, the scope of claim 1 is not rendered indefinite by the mere recitation of data processing activities."

As for the contention that it is not clear how data processing activities can be used to identify and represent a correspondence between representations of data variable information, attention is respectfully directed to the specification. For example, page 11, line 12-20 describes that a data processing system can insert, into one or more fields of a mapping template instructions for importing or exporting customization settings, instructions for identifying objects of a selected object class, instructions for locating customization settings, and even instructions for representing the correspondence between customization settings, such as information that identifies specific Java calls for transforming objects represented in accordance with a source system's customization settings into objects represented in accordance with a target system's customization settings. Further examples are described at page 12, line 29-page 13, line 12.

Accordingly, the scope of claim 1 is discernable to those of ordinary skill. Applicant respectfully requests that the rejection under 35 U.S.C. § 112, second paragraph be withdrawn.

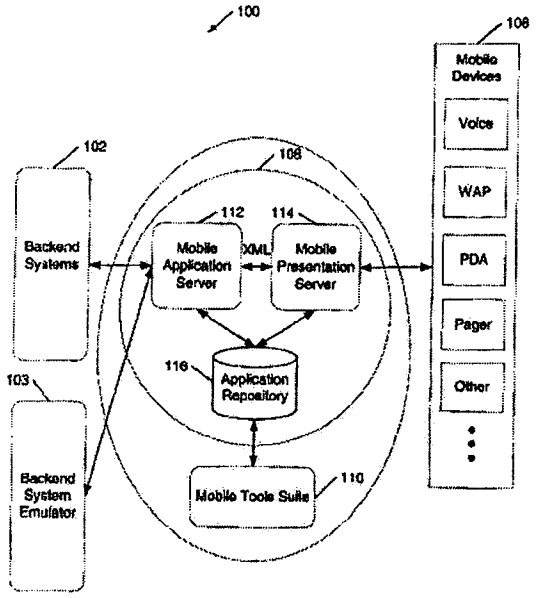
VIII. The Rejection of Independent Claim 1 under the under 35 U.S.C. § 102(e) as anticipated by Granade

Claim 1 stands rejected under 35 U.S.C. § 102(e) as anticipated by Granade. Claim 1 relates to a computer-implemented method for managing different representations of information. The method includes receiving information describing a first representation of data variable information in a first data structure in a first data processing system, receiving information describing a second representation of the data variable information in the first data structure in a second data processing system, and mapping the first representation of the data variable information to the second representation of the data variable information. The mapping includes identifying a correspondence between the first representation and the second representation using a set of data processing activities performed in accordance with a first set of machine-readable instructions, representing the correspondence using the set of data processing activities performed in accordance with the first set of machine-readable instructions, and making the correspondence between the first representation and the second representation available for changing the first representation of the data variable information to the second representation of the data variable information.

Granade is not understood to disclose or to suggest features of claim 1. For example, Granade is not understood to disclose or to suggest mapping a first representation of data variable information in a first data structure in a first data processing system to a second representation of the data variable information in the first data structure in a second data processing: system, as recited in claim 1.

In this regard, Granade describes an integration system 100 for integrating backend application systems with mobile devices. *See Granade*, para. [0026] The integration system 100 includes a mobile application server 112 that allows mobile devices to access backend systems 102. *Id.*, para. [0028]-[0029]. Mobile application server 112 facilitates this access by invoking methods on behalf of the mobile devices. *Id.* These methods are stored and retrieved from an application repository 116. *Id.* The results from the backend systems are converted to an intermediary language compatible with XML and passed to a mobile presentation server "for adaptation to the particular mobile device." *Id.* Once adapted, the information is conveyed to mobile devices 106. *Id.*, FIG. 1.

For the sake of convenience, Granade's FIG. 1, which illustrates the components and interactions of integration system 100, is now reproduced.



Granade's FIG. 6 is a flowchart that diagrams the "overall operations" performed when backend systems are integrated with mobile devices by system 100. *Id.*, paras. [0019], [0059]. For the sake of convenience, FIG. 6 is reproduced.

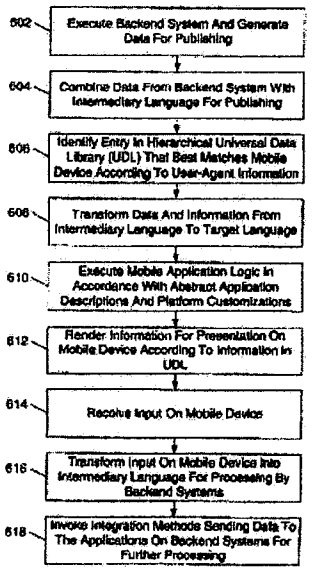


FIG. 6

As can be seen, in downstream integration,[1] data that is generated by backend systems 102 is "combined with an intermediary language" that is, e.g., compatible with XML, at 602, 604. *Id.*, para. [0060]. An entry in a universal device library (UDL) that stores information characterizing different mobile devices is identified at 606. *Id.*, paras. [0044], [0060]. "Once the mobile device is identified [in the universal device library], the data and information is transformed from the intermediary language to the target language" at 608. *Id.*, para. [0061]. Granade gives two specific examples of the types of data and information transformations that occur. They are:

-the conversion of data into voice dialogs that are compatible with one of device adaptors 304, 306, and 308 to generate platform specific code (*Id.*, para. [0040], [0048], [0061]); and

-the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display using data adaptors 310, 312, 314, and 316. *Id.*, para. [0041], [0046], [0061].

As best understood by Applicant, the rejection of claim 1 is based on the contention that this transformation of data from an intermediary language to a target language so that it can be conveyed to a mobile device constitutes a mapping of a first representation of data variable information in a first data structure in a first system to a second representation of the data variable information in the first data structure in a second system, as recited in claim 1.

Applicant respectfully disagrees. To begin with, claim 1 recites that information describing different representations of the *same data variable information* in the *same first data structure* in *different data processing systems* is received and the correspondence therebetween mapped. However, Granade deals with transforming data and information that are to be sent to mobile devices from an intermediary language to a target language. Applicant respectfully submits that Granade's message transformation would appear to generate a target language file that differs from the intermediary language file. Indeed, the rejection itself appears to be based on the contention that the

[1] The reverse (upstream) process is described in FIG. 7 and elements 614, 616, 618 of FIG. 6. *Id.*, para. [0062], [0063]. The upstream process has never been cited in the rejection and hence is not discussed in detail here.

target language file and the intermediary language file are different data structures. *See, e.g., Office action mailed December 8, 2006*, page 7, middle paragraph (contending that the file formats WML 310, HDML 312, . . . are "equivalent to the claimed second data structure") (emphasis added).

However, claim 1 recites that "information describing a first representation of data variable information in a first data structure in a first data processing system" and "information describing a second representation of the data variable information in the first data structure in a second data processing system" is received. In other words, there is no "second claimed data structure." Applicant also submits that files in different languages would not reasonably be considered to constitute the same "first data structure," as recited in claim 1.

Further support for this position is provided when one considers the details of the two specific examples of transformations provided by Granade. As for the conversion of data into voice dialogs, the generation of platform specific clearly involves the creation of new data structures - namely, new platform specific code - that is not "in" both a first and second data processing system.

As for the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display, it also does not appear that this involves mapping a correspondence between different representations of the same data variable information in the same first data structure in different data processing systems. Instead, this conversion of data is understood to involve the creation of a new file that is adapted to the protocols of the destination device. For example, Granade's para. [0046] describes:

> "For data communication, mobile presentation server 114 selects one of WML 310, HDML 312, HTML 314, or other data device adaptor 316 to transmit data information to a display associated with mobile device 106. Each different data device adaptor may require mobile presentation server 114 to access application repository 116 for details on rendering different protocols or languages properly on the mobile device display. For example, putting titles on the display of a mobile device may be handled differently for different languages or protocols. In one language, there may not be a standard method for putting titles on the screen of a mobile display device. If that occurs, the corresponding data-device adaptor may

> be instructed to insert title information and render titles on each screen. In contrast, another language may automatically render screen title information on each screen. Accordingly, the corresponding device adaptor for this language would not be required to insert screen titles since the underlying language supports rendering screen titles." *Id.*, para. [0046].

As another example, Granade's para. [0041] describes:

> "Data dialog manager 21 8 in FIG. 2 manages data used by the applications in backend system 102 and their representation on mobile devices 106. Data information passes through data dialog manager 218 and is presented on mobile devices 106 using menus and other types of user-interface components. Data can be represented statically using predetermined menus or dynamically using menus created in response to certain data conditions. In one implementation, data dialog manager 218 is responsive to data compatible with XML and receives additional formatting control for displaying XML using style sheets compatible with Extensible Stylesheet Language (XSL)." *Id.*, para. [0041].

Thus, not only does it appear that the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display involves the creation of new and different data structures, these conversions do not involve different representation of data variable information in the same first data structure. Instead, these conversions are understood to involve the formatting of user-interface elements for display and the graphical "representation" of that information.

The rejection has also contended that other portions of Granade allegedly support the rejection. For the sake of completeness, Applicant will now address these contentions. For example, a rejection of claim 1 has contended that Granade's description that the resolution of an image can be modified constitutes mapping a first representation of data variable information in a first data structure to a second representation of the data variable information in the first data structure, as recited in claim 1. For the sake of convenience, the relevant portion of Granade is now reproduced.

> "In one implementation, results from various backend systems 102 are converted to an intermediary language compatible with XML and passed to mobile presentation server 114 for adaptation to the particular mobile device. Mobile presentation server 114 identifies the characteristics of the

> mobile device including display size and browser type and modifies the information for presentation on the mobile device in the most suitable format. For example, mobile presentation server 114 can modify the resolution of an image to fit the display of a particular mobile device." *Id.*, para. [0029].

Once again, this citation makes it clear that Granade modifies the information that is to be sent to a mobile device, rather mapping the representation of the information in a first data structure in the mobile device. Moreover, even if one were to consider image data to be "data variable information" for the sake of argument (which applicant does not concede), it is clear that processes such as decimation can be used to change the resolution of the image without any concomitant change in the representation of the image data. In such cases, it is the information content of the image that is changed, rather than the representation of data variable information.

As another example, a rejection of claims 22-29 has contended that Granade's description of language and currency translations constitutes mapping a first representation of data variable information in a first data structure to a second representation of the data variable information in the first data structure, as recited in claim 1. For the sake of convenience, the relevant portion of Granade is now reproduced.

> "If the application in backend systems 102 does not offer multiple locales, an alternate implementation of the present invention translates information generated by the application into the locale selected for use on mobile devices 106. For example, this may include automatically translating the default language in the application into the language associated with the desired locale. This latter implementation may also automatically perform currency translations between a default currency used by the application and the currency in the desired locale." *Id.*, para. [0038].

Although such language/currency translations could be used to map different representation of data variable information in the same first data structure, there is no indication that Granade actually does so. Instead, when read in the context of the remainder of Granade, it appears that such language/currency translations are part of the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display. Since Granade provides no additional details regarding

how the translations are to be performed, this portion also does not suffice to establish that claim 1 is anticipated.

Accordingly, claim 1 is not anticipated by Granade. Applicants thus request that the rejections of claim 1 and the claims dependent therefrom be withdrawn.

IX. The Rejection of Independent Claim 15 under the under 35 U.S.C. § 102(e) as anticipated by Granade

Claim 15 stands rejected under 35 U.S.C. § 102(e) as anticipated by Granade. Claim 15 relates to a computer program product, tangibly embodied in one or more machine readable storage devices, for managing different representations of information. The computer program product is operable to cause one or more data processing apparatus to receive a data variable in a data structure, receive a description of a second representation of the data variable information, identify and represent a correspondence between the first representation and the second representation to generate a set of mapping information, change the data variable information from the first representation to the second representation in accordance with the set of mapping information and separately from any change to the structure of the data structure, and make the data variable information having the second representation available in the data structure. The data variable information in the data variable has a first representation associated with a first system. The second representation is associated with a second system.

Claim 15 thus clearly recites subject matter that differs from that recited in claim 1. However, the rejection of claim 15 is based on the bald contention that claim 15 "incorporate[s] substantially similar subject [matter]" as claim 1. No support for this contention of substantial similarity has ever been set forth. Since 35 U.S.C. § 132 and 37 C.F.R. § 1.104(2) both require that the reasons for any adverse action be stated in an Office action, the rejection is facially deficient and Applicant requests that it be withdrawn.

To advance prosecution, Applicant will now address how claim 15 is allowable over Granade. In this regard, Granade is not understood to disclose or to suggest features of claim 15. For example, Granade is not understood to disclose or to suggest a computer program product that is operable to cause one or more data processing apparatus to

change data variable information from a first representation associated with a first system to a second representation associated with a second system in accordance with the set of mapping information and separately from any change to the structure of the data structure, as recited in claim 1.

As discussed above, Granade describes the transformation of data and information from an intermediary language to a target language for conveyance to mobile devices. Details regarding two specific examples of such transformations are provided, namely, the conversion of data into voice dialogs to generate platform specific code and the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display.

Applicant respectfully submits that neither of these transformations describes or suggests that data variable information is changed from a first representation associated with a first system to a second representation associated with a second system in accordance with the set of mapping information and separately from any change to the structure of the data structure. For example, the generation of platform specific code would seem to involve the creation of an entirely new data structure. As for the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display, such conversions would appear to require changes to the structure of a data structure. For example, in one example of such a conversion, Granade describes that title information is inserted so that titles can be rendered on the screens of the mobile devices. Such an insert of title information would appear to require a change in the structure of a file and thus does not meet the elements and/or limitations recited in claim 15.

As for the changes in image resolution and language/currency translations discussed above, these too fail to meet the elements and/or limitations recited in claim 15. In this regard, even if one of ordinary skill would consider image data to constitute data variable information, it would appear that changes in image resolution would necessarily involve a change in the structure of the data structure that stores the image data. For example, it would appear likely that the data structure would be resized on account of the decreased information content associated with lower resolution.

As for language/currency translations, although such translations could be used to change data variable information from a first representation associated with a first system to a second representation associated with a second system in accordance with the set of mapping information and separately from any change to the structure of the data structure, there is no indication that Granade actually does so. Instead, such language/currency translations appear to be part of the conversion of data from an intermediary language into menus, messages, and other user-interface elements for display. Such conversions are understood to involve change to a data structure (or the creation of new data structures), as discussed above.

Accordingly, claim 15 is not anticipated by Granade. Applicants thus request that the rejections of claim 15 and the claims dependent therefrom be withdrawn.

The brief fee of $500 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

LUTZ ROSENPFLANZER

By their Representatives,

SCHWEGMAN, LUNDBERG & WOESSNER, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6900

Date: December 15 2007

David P. Zurilla
Reg. No. 36,776

Appendix of Claims

1. A computer-implemented method for managing different representations of information, comprising:

receiving information describing a first representation of data variable information in a first data structure in a first data processing system;

receiving information describing a second representation of the data variable information in the first data structure in a second data processing system; and

mapping the first representation of the data variable information to the second representation of the data variable information, the mapping comprising:

identifying a correspondence between the first representation and the second representation using a set of data processing activities performed in accordance with a first set of machine-readable instructions,

representing the correspondence using the set of data processing activities performed in accordance with the first set of machine-readable instructions, and

making the correspondence between the first representation and the second representation available for changing the first representation of the data variable information to the second representation of the data variable information.

2. The method of claim 1, wherein:

mapping the first representation to the second representation further comprises establishing a second set of machine readable instructions for changing the first representation of the data variable information to the second representation of the data variable information; and

making the correspondence available comprises making the second set of machine readable instructions available.

3. The method of claim 2, wherein establishing the second set of machine readable instructions comprises establishing a criterion for identifying a data variable in a first data structure.

4. The method of claim 2, wherein establishing the second set of machine readable instructions comprises establishing an extensible stylesheet language (XSL) file that describes how to change the first representation of the data variable information.

5. The method of claim 2, wherein establishing the second set of machine readable instructions comprises:

receiving a framework for instructions; and

inserting instructions into the framework.

6. The method of claim 2, wherein establishing the second set of machine readable instructions comprises selecting a germane instruction for transforming the first representation to the second representation from a collection of instructions for transforming the first representation to the second representation.

7. The method of claim 2, wherein the second set of machine readable instructions comprises instructions for identifying the data variable in a data structure.

8. The method of claim 7, wherein the instructions for identifying the data variable comprise an Xpath expression for identifying an object of an object class that includes the data variable.

9. The method of claim 1, further comprising changing the first representation of the data variable information in the data variable in the first data processing system to the second representation of the data variable information in the second data processing system using the correspondence between the first representation and the second representation.

10. The method of claim 1, further comprising receiving a trigger for the mapping, the trigger identifying a data object class that includes the data variable.

11. The method of claim 1, further comprising storing results of the mapping in a collection of mapping results.

12. The method of claim 1, wherein the information describing the first representation of data variable information comprises instructions for locating the information in the first data processing system.

13. The method of claim 1, wherein the information describing the first representation of data variable information comprises the first representation of data variable information.

14. The method of claim 1, further comprising:

receiving instructions for data interfacing with the first data processing system; and

adding the interfacing instructions to results of the mapping.

15. A computer program product, tangibly embodied in one or more machine readable storage devices, for managing different representations of information, the computer program product being operable to cause one or more data processing apparatus to:

receive a data variable in a data structure, wherein data variable information in the data variable has a first representation associated with a first system;

receive a description of a second representation of the data variable information, wherein the second representation is associated with a second system;

identify and represent a correspondence between the first representation and the second representation to generate a set of mapping information;

change the data variable information from the first representation to the second representation in accordance with the set of mapping information and separately from any change to the structure of the data structure; and

make the data variable information having the second representation available in the data structure.

16. The computer program product of claim 15, wherein the product is also operable to cause the data processing apparatus to:

receive the data variable information formatted in accordance with a first customization setting of the first system;

receive a second customization setting of the second system, wherein the first customization setting and the second customization setting specify at least one of a language, a format, and a unit of the data variable information; and

change the data variable information from being in accordance with the first customization setting to being in accordance with the second customization setting.

17. The computer program product of claim 15, wherein the product is also operable to cause the data processing apparatus to receive a current description of the first representation.

18. The computer program product of claim 15, wherein the product is also operable to cause the data processing apparatus to receive the description of the second representation from the second system.

19. The computer program product of claim 15, wherein the product is also operable to cause the data processing apparatus to:

receive the data variable in a data object including a collection of further variables;

receive descriptions of further representations of information in the further variables, the further representations associated with the second system; and

change representations of data variable information in the further variables to the further representations.

20. The computer program product of claim 15, wherein the product is also operable to cause the data processing apparatus to change the data structure to a second data structure associated with the second system.

21. The computer program product of claim 15, wherein the product is also operable to cause the data processing apparatus to:

establish machine readable instructions for changing the data variable information from the first representation to the second representation; and

make the machine readable instructions available.

22. The method of claim 1, wherein the first representation specifies a language of the information in the data variable.

23. The method of claim 1, wherein the first representation specifies a unit of the information in the data variable.

24. The method of claim 1, wherein the first representation specifies a notation of the information in the data variable.

25. The method of claim 1, wherein the first representation specifies a format of the information in the data variable.

26. The computer program product of claim 15, wherein the first representation specifies a language of the information in the data variable.

27. The computer program product of claim 15, wherein the first representation specifies a unit of the information in the data variable.

28. The computer program product of claim 15, wherein the first representation specifies a notation of the information in the data variable.

29. The computer program product of claim 15, wherein the first representation specifies a format of the information in the data variable.

30. The method of claim 1, wherein making the correspondence between the first representation and the second representation available comprises providing the correspondence in a directory of mapping information.

Evidence Appendix

None.

Related Proceedings Appendix

None.